REMARKS

Claims 1, 3-6, 8, 9, 11, 13-16, 18-24, 26, 27, and 29-48 remain pending in the present application after amendment. Independent claims 1, 11, 20, and 40 have been amended, as have dependent claims 13-16, 18, 19, and 33-39. Claim 10 is canceled. No claims have been added. No new matter has been added.

Claim Objections

The Examiner has objected to dependent claims 13-16, 18, 19, and 33-39 due to minor matters. Applicants have addressed the matters by appropriately amending such claims.

Claim Rejections - 35 U.S.C. § 101

Claims 10, 27, and 29-31 are rejected under 35 USC § 101 because, as asserted in the instant Office Action, they are directed to non-statutory subject matter.

Claim 10 is canceled, rendering the rejection under 35 USC § 101 moot.

The rejection of claims 27 and 29-31 under 35 USC § 101 is respectfully traversed because claims 27 and 29-31 are statutory per 35 U.S.C. § 112, last paragraph. Claims 27 and 29-31 are directed to a system and written in means plus function format.

> An element in a claim for a combination may be
> expressed as a means or step for performing a specified
> function without the recital of structure, material, or acts
> in support thereof, and such claim shall be construed to
> cover the corresponding structure, material, or acts
> described in the specification and equivalents thereof.
> (35 U.S.C. § 112)

The system recited in claims 27 and 29-31 is described throughout the specification. See for example Figure 6 and the description thereof.

Because claims 27 and 29-31 are statutory per 35 U.S.C. § 112, it is requested that the rejection under 35 U.S.C. § 101 be reconsidered and withdrawn.

Claim Rejections - 35 U.S.C. § 112

The Examiner has rejected the claims under 35 USC § 112, first paragraph, for the reason that the limitation 'attribute restrictions' in the independent claims is not supported by the specification. It is submitted that the limitation 'attribute restrictions' is supported by the original specification at least in paragraphs [0005], [0014], [0033]-[0035], and [0039], for example. However, without disclaimer or waiver, independent claims are amended to recite 'restrictions'. Applicants respectfully submit that 'defining relationships between said attributes, wherein said relationships are not subject to said restrictions placed on said database ...' is supported in the original specification at least at paragraph 0035 (as published).

Claim Rejections - 35 U.S.C. § 103

The Examiner has rejected the claims under 35 USC § 103 as being obvious over Colossi et al. (IBM Systems Journal, December 2002) in view of Petculescu et al. (U.S. Patent No. 6,473,764). Additionally, the Examiner has rejected the claims under 35 USC § 103 as being obvious over Tuzhilin et al. (U.S. Patent Pub. No. 2004/0103092) in view of Reddy et al. (U.S. Patent No. 6,658,413). Applicants respectfully traverse the § 103 rejections insofar as they may be applied to the claims as amended.

In the present application, a relational database is disclosed as having data organized in columns of a tables or the like, and a dimension is defined with respect to the columns so as to simplify drilling down into the data. As may be appreciated, a dimension classically has a single hierarchy of attributes, where each attribute corresponds to a column. For example, a hierarchy of a dimension may be time-based and therefore have successive hierarchical levels that more finely define time, such as year, month, day, hour, minute, etc. The present application, however, appreciates that a single dimension may be organized into multiple hierarchies so as to simplify data organization and access. Thus, in addition to the time-based

hierarchy, the aforementioned dimension may also have a location-based hierarchy, for example, with successive hierarchical levels that more finely define location, such as country, state, county, city, etc.

In independent claim 1, a method is set forth where a dimension is defined to have a plurality of attributes, where each attribute is assigned to a respective column of the database, and where the database has restrictions. As may be appreciated, such restrictions are with regard to the columns / attributes and may for example be that one attribute always appears with another attribute (i.e., a city must always be associated with a state).

Relationships are defined between the attributes of the defined dimension, where the defined relationships are not subject to the restrictions of the database. To continue the above example, a defined dimension need not have a city associated with a state. The defined relationships establish a first hierarchy of the attributes with respect to the defined dimension.

In a similar manner, new relationships are defined between the attributes of the defined dimension, where the new defined relationships establish a second hierarchy of the attributes with respect to the defined dimension. As before, the new relationships are not subject to the restrictions of the database. Here, the new relationships of the second hierarchy modify at least one relationship of the first hierarchy between the attributes. Thus, the first and second hierarchies are not identical. Such first and second hierarchies of the dimension may be employed to access the database.

Independent claims 11, 20, and 40 recite subject matter similar to that of claim 1, albeit in the form of a computer-readable storage medium, a system, and a method with differing focus, respectively. To summarize, the claims of the present application highlight (1) that the restrictions of the database are not imposed on the hierarchies of the dimension, (2) that the dimension is defined to have multiple hierarchies, and (3) that each defined hierarchy of the dimension may be employed to search the database.

The Examiner points to the Colossi reference as disclosing all aspects except multiple hierarchies defined for a dimension, and then cites to the Petculescu reference as disclosing

such missing feature. However, Applicants respectfully submit that neither of such references discloses that the restrictions of the database are not imposed on the hierarchies of the dimension. Perhaps more significantly, inasmuch as the Petculescu reference discloses a base dimension with a hierarchy and a created virtual dimension with another hierarchy, as the Examiner points, out, the Petculescu reference does not disclose that the base dimension thereof or that the created virtual dimension thereof has first and second hierarchies, as is recited in the independent claims of the present application. The Petculescu reference discloses that each dimension has a single hierarchy, and not that a single dimension has multiple hierarchies. Accordingly, neither the Petculescu reference nor the Colossi reference discloses that each defined hierarchy of a single dimension may be employed to search a database, as is recited in the claims.

The Examiner points to the Tuzhilin reference as disclosing all aspects except a database with restrictions and hierarchies in dimensions that do not have such restrictions imposed thereon. According to the Examiner however, such missing feature is set forth in the Reddy reference. In particular, the Examiner points to column 21, lines 38-45. However, Applicants respectfully point out that such portion of Reddy discloses only that 'An object storage model is to be defined for OLAP. Access permissions can be set for each object (Dimensions, Levels, Members, Data Measures, Data at cell level) by user, group etc. The access privileges can be Read, Modify, Add, Delete, etc.'. Applicants respectfully submit that such portion of the Reddy reference bears no relationship whatsoever with regard to disclosing that the restrictions of the database are not imposed on the hierarchies of the dimension. Thus, Applicants respectfully conclude that such portion of the Reddy reference does not at all disclose that the restrictions of the database are not imposed on the hierarchies of the dimension. Accordingly, neither the Tuzhilin reference nor the Reddy reference discloses such feature.

Accordingly, Applicants respectfully submit that the combination of the Colossi and Petculescu references does not disclose or suggest all of the recited elements of the independent claims as amended, and that the combination of the Tuzhilin and Reddy references likewise does not disclose or suggest all of the recited elements of the independent

claims as amended. Base thereon, such respective combinations cannot be applied to make obvious such independent claims or any claims depending therefrom. Thus, Applicants respectfully request reconsideration and withdrawal of the § 103 rejections insofar as they may be applied to such claims as amended.

CONCLUSION

In view of the foregoing discussion, Applicants respectfully submit that the present application including claims 1, 3-6, 8, 9, 11, 13-16, 18-24, 26, 27, and 29-48 is in condition for allowance, and such action is respectfully requested.

Respectfully Submitted,

Date: June 17, 2008   **/Joseph F. Oriti/**
                                                     Joseph F. Oriti
                                                     Registration No. 47,835

Woodcock Washburn LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439